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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): P00,1843-01

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on December 8, 2006

Signature Pam VanderMeer

Typed or printed name Pam VanderMeer

Application Number	Filed
09/697-262	October 26, 2000

First Named Inventor: Dirk Daecke

Art Unit	Examiner
2616	Elallam, Ahmed

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☑ attorney or agent of record. Registration number 45,877
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

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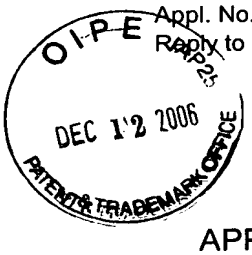
Dec. 7, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PRE-APPEAL BRIEF REQUEST FOR REVIEW

APPLICANT:	Dirk Daecke, et al.	DOCKET NO:	P00,1843
SERIAL NO.:	09/697,262	ART UNIT:	2662
FILED:	October 26, 2000	EXAMINER:	Elallam, Ahmed
CONF. NO.:	3837		

TITLE: CIRCUIT ARRANGEMENT AND METHOD FOR DATA TRANSMISSION

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Pre-Appeal Brief Request for Review is responsive to the Final Office Action ("OA") dated September 11, 2006, and is accompanied by a Notice of Appeal filed concurrently herewith, in accordance with the Pilot Program announced in the OG Notices of July 12, 2005, and as extended by the Commissioner for Patents on January 10, 2006, as announced in the OG Notices of February 7, 2006.

A prior Appeal Brief was filed was filed on May 23, 2006, resulting in prosecution being reopened and the subsequent Final Office Action of September 11, 2006, referenced above. Appellants apply the previously paid Notice of Appeal fee paid as full payment for the present notice of appeal, but authorize the Commissioner to deduct any underpayment from or apply any overpayment to deposit account 50-1519.

The following five pages or less summarize the issues on appeal.

SET OF ARGUMENTS FOR WHICH THE REVIEW IS BEING REQUESTED

A. BARTHOLOMEW'S PATENT DOES NOT TEACH OR SUGGEST THE SYNCHRONOUS INSERTION AND TRANSMISSION REQUIRED BY THE INDEPENDENT CLAIMS.

Bartholomew does not teach the claimed element of synchronous insertion and transmission. Bartholomew describes a new method for delivering new services, but leaves the transport mechanisms unchanged.

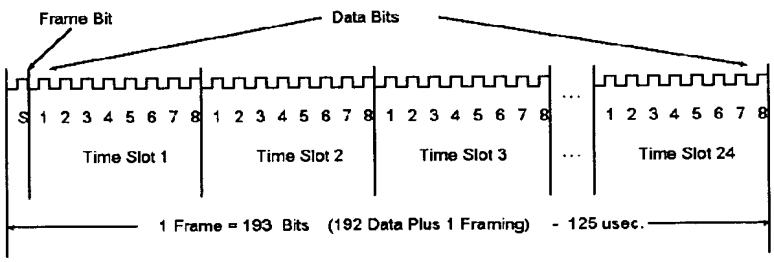
Although the Examiner refers to Bartholomew's "synchronous T1 frame (see OA 3/8-10 (page 3, lines 8-10) and 5/11-13:

> [.....] for inserting voice from telephone 29 (claimed equipment for voice) and data from computer 25 (claimed equipment for data) to be carried over the synchronous T1 frame, [....]
>
> [....] for inserting data of the terminal equipments (telephone 29 and computer 25) into respective DS0 slots, the DS0 slots for transport over a T1 frame (T1 frame is a synchronous frame) to a channel bank [....]

However, the Examiner has failed to show how Bartholomew teaches the synchronous insertion and transmission of the data with a common channel for operational control. The Examiner indicates that the T1 frame is a *synchronous frame*, but he does not show that the payload, the D-channel voice and the data, is synchronous to the T1-frame.

For clarification, T1 is defined as a two-point, dedicated, digital service provided on terrestrial digital facilities capable of transmitting 1.544 Mb/s. A T1 frame is an application frame, in contrast to the frame of a data transmission mechanism, e.g., the ISDN frame.

The T1 frame (DS1 is the data carried on a T1 circuit) comprises 24 timeslots * 8 bits + 1 Synchronization bit = 192 bits + 1 bit = 193 bits. The first bit of each frame is used for synchronization. An illustration of a T1 frame is shown below. The length of a T1 frame is 125 µs. Therefore the T1 line rate is 1544 kbits/s = 193 bits / 125 µs = 24 x 64 kbits/s + 8 kbits/s. These are 24 x DS0s (64 kbits/s) and the 8 kbits/s F-bits which form a bit pattern for synchronization.



However, the mere fact that the T1 frame contains synchronization bits is insufficient for teaching a "synchronous frame" or that a synchronous insertion and transmission is performed. Bartholomew does provide any disclosure as to whether these synchronization bits are also the timing reference of the compressed voice channel or the data transmitted over the B-channels.

Of significant importance, it cannot be assumed that in Bartholomew, the clocks of the D- and B- channels from the ISDN link (12) are aligned with he clocks of the T1 link (33). In fact, the T1 clock loses synchronization if more than 15 consecutive zeros occur in the transmitted data. Therefore, pulse stuffing is used by setting every eighth bit to 1. But in this way, the payload and the T1 link obtain different clock rates!

In order to compensate for clocking differences of the near-end and the far-end side, a T1 link can repeat or delete frames to compensate for these clocking differences. But this refers to the synchronization of the T1 link. The payload then needs a different synchronization reference.

In the OA, on page 5, lines 4-8, the Examiner wrote:

> Regarding claims 4 and 16, with reference to figures 1-3, Bartholomew discloses a method in a circuit arrangement for ("synchronously" as in claim 16) transmitting a data stream in a common frame belonging to at least two terminal equipment types or services that are capable of including both voice and data, comprising:

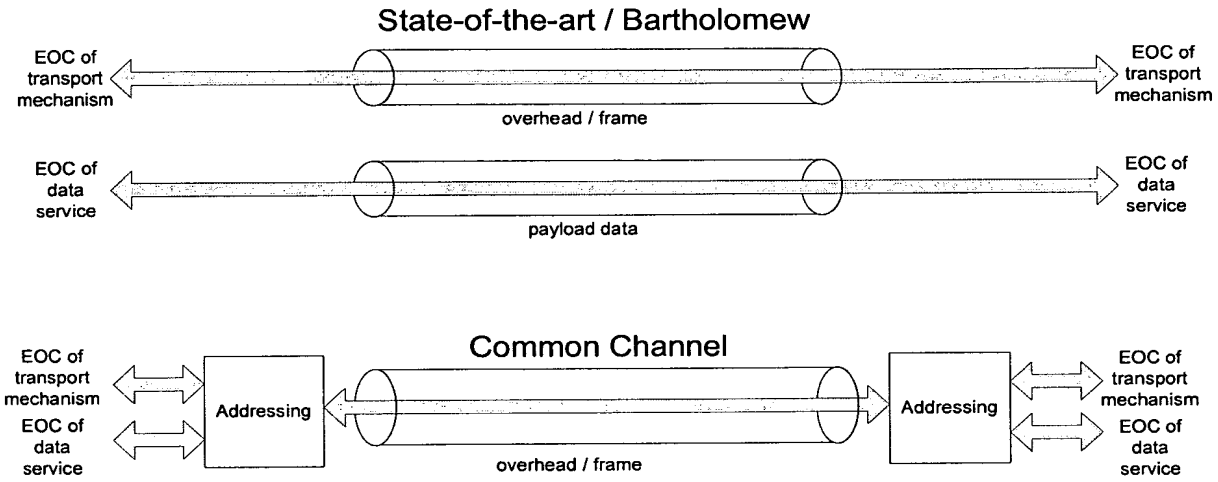
Figures 1-3 in Bartholomew do give not any indication about the synchronization of the system. In the present invention, the term "synchronous transmission" does not mean that data and voice services are transmitted simultaneously over the DSL link; the term *synchronous insertion and transmission* describes one process which means that the data and the frame have one common timing reference. This can be achieved by locking these processes to the same network clock.

The synchronization of payload services and the frame clock represents a special case, because typically the payload clock is not synchronized to the network clock. "Synchronously" as it is used in claim 16 means that the data and the frame have the same timing reference.

B. BARTHOLOMEW'S PATENT DOES NOT TEACH OR SUGGEST DEPOSITING DATA FOR OPERATIONAL CONTROL OF CONNECTIONS IN A SINGLE OPERATING EOC CHANNEL OF A FRAME, AS REQUIRED BY CLAIM 5.

Claim 5 focuses on the new notion of a common channel for operational control. A channel for operational control can be, e.g. an embedded operations channel (EOC) that supports operations communications between the network and the remote terminal. Now, the EOC of a data service, e.g. ISDN, can be combined with the EOC of the transport mechanism, e.g., SDSL. This common channel for

operational control is transmitted in the overhead of the frame. The following diagram illustrates the state-of-the-art disclosed by Bartholomew and the distinction by the claimed invention.



Although the Examiner assumes that the common channel for operational control, as claimed in claims 5 and 6, had already been anticipated by Bartholomew, Bartholomew, in fact, teaches the known state of the art, i.e., a method of mapping the ISDN B-channels, the D-channel and the ISDN EOC into DS0s. The following comparison of the present invention and the disclosure of Bartholomew's concept shows the fundamental differences of the signalling concept.

Bartholomew uses the ISDN transport mechanism in a different way than the traditional ISDN. Bartholomew uses the ISDN frame format to transmit 64 kbits/s data service (B-channels) and 16 kbits/s compressed voice data (D-channels). However, the payload in Bartholomew's system is not ISDN. In the abstract of his patent, lines 15-18, Bartholomew writes:

> The invention uses two or more B-channels on the DSL circuit for data communications and transports voice telephone communications on the low speed signaling D-channel.

In Bartholomew's patent a voice service is transported at the position of the ISDN D-channel while an unspecified data service is transported at the position of the ISDN B-channels. Since the ISDN eoc belongs to the ISDN data transmission mechanism of the B-channels and the D-channels, one could assume, that the EOC transmits control information of the voice and data services. However, this is wrong: The ISDN EOC only contains messages that relate to the ISDN transport mechanism, but not to the channels or the data that is transmitted over these channels. The ISDN EOC, as specified in the ISDN standard ETSI TS 102 080, does not contain messages that refer to the D-channel only.

The D-channel voice does not use or share the ISDN EOC for signalling purposes. Instead, it has its own separate signalling channel inside the 16 kbits/s D-channel. This can be shown in Bartholomew's patent in the abstract, lines 20-23:

> The voice communications on the D-channel utilize in-band call set-up signaling and appropriate CODECs for digital communications compressed to the low D-channel rate.

In the OA, on page 4, lines 1-2 the Examiner writes:

> The combined D and EOC into a different DS0 reads on the claimed common channel for operational control.

However, this assumption is incorrect: The DS0 that transports the EOC and the D channel is not a common channel for operational control. The EOC carries operational control information, while the D channel carries compressed voice in Bartholomew's patent. Thus, voice data and control messaging are different kinds of data which cannot be combined in the common channel. Furthermore, a regular ISDN D-channel cannot be combined with the EOC channel, because the D-channel refers to the higher layers while the EOC refers to the transport mechanism.

A T1 frame comprises its own signalling channel inside the frame. The function of this signalling channel of the transport mechanism is comparable to the EOC of the SDSL frame (transport mechanism). It should be noted, that in Bartholomew's patent, this T1 signalling channel is kept separate and unchanged. Thus Bartholomew's patent shows that there is no common channel for operational control.

C. BARTHOLOMEW'S PATENT DOES NOT TEACH OR SUGGEST THAT THE OPERATIONAL CONTROL CHANNEL IS OUTSIDE OF THE PAYLOAD DATA REGION, AS REQUIRED BY CLAIM 9.

Claims 9 and 10 of the present invention require that the operational control channel be outside the payload data region. The Examiner's assumption is incorrect that the EOC in Bartholomew is transmitted outside the payload data region in the overhead of the frame. To the contrary, Bartholomew discloses the opposite: Bartholomew's EOC is transmitted together with the D-channel voice as payload data in a DS0. The DS0s carry the T1 payload data. They are not overhead and they do not belong to the frame.

On page 4, lines 15-19, the Examiner wrote:

> [.....] wherein EOC (embedded operations channel) is used for control (claimed control data) carried over a DS0, the DS carrying the EOC is different than the DS0s allocated for data), wherein the EOC is embedded in a DS0 of the T1 frame;

However, the DS0, that carries the EOC also carries the D-channel voice data, and the D-channels are definitely payload data. It is obvious that a DS0 cannot be part of the payload and of the overhead at the same time. Therefore, the Examiner's argument that the DS0 that carries the ISDN EOC can be regarded as overhead, is not correct.

Bartholomew writes that the EOC and the D channels are transmitted in a DS0 within the T1 link. By definition, a T1 links consists of 24 x 64 kbits/s DS0 channels (plus 8 kbits/s for F bits). Therefore, the T1 data rate is 1544 kbits/s (=1536 kbits/s + 8 kbits/s). The DS1 rate is a payload data rate. This means that the 64 kbits/s DS0s are payload data. The DS0s are not part of the frame. The DS0s are not overhead data. If an EOC is transmitted inside a DS0, it is transmitted as payload data. Thus Bartholomew describes a method that is fundamentally different from our method. Bartholomew transports the EOC as payload data. In the present invention, the common channel for operational control is transmitted in the overhead of the frame. The assumption that the DS0s are overhead or part of the frame is incorrect, and it is incorrect to assume that one DS0 belongs to the payload while the other DS0 is part of the framing overhead.

The arguments for patentability have been truncated, given the constraints of the Pre-Appeal Brief Request for Review procedure. However, the Examiner is invited to contact the undersigned representative for further clarification and any discussion or question regarding the claimed subject matter.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on December 8, 2006.

Pam VanderWerf